

CLAIMS

What is claimed is:

1. A compressor comprising:
 - a drive shaft extending along a longitudinal axis;
 - a swash plate assembly operatively connected to and driven by said drive shaft;
 - a retainer ring for disposition about said drive shaft, and said drive shaft having first and second annular grooves therein and spaced longitudinally from one another.
- 10 2. A compressor as set forth in claim 1 including a conical ramp extending out of said first annular groove toward said second annular groove for facilitating movement of said retainer ring out of said first groove and along said shaft to said second groove.
- 15 3. A compressor as set forth in claim 1 wherein said drive shaft has a variable diameter between said grooves.
4. A compressor as set forth in claim 3 wherein each of said first and said second annular grooves includes a bottom and parallel sides.

5. A compressor as set forth in claim 4 wherein one of said sides of said first annular groove extends perpendicularly to said longitudinal axis from said bottom thereof to said variable diameter and the other side intersects with said conical ramp.

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6. A compressor as set forth in claim 5 wherein said sides of said second annular groove extend perpendicularly to said longitudinal axis from said bottom to said variable diameter.

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7. A compressor as set forth in claim 6 wherein said swash plate assembly includes a resilient member disposed annularly about said drive shaft and between said swash plate assembly and said retainer ring to provide a biasing force against said retainer ring.

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8. A compressor as set forth in claim 7 comprising:
a central housing having terminal ends;
a rear housing connected to said central housing at one terminal end of
said central housing;

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said rear housing having an opening and a plurality of holes spaced one from the other and extending along said longitudinal axis from said rear housing to said opening;

a crank chamber defined within said central housing;
a front housing connected to said central housing at the other of said terminal end;

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a suction chamber defined within said front housing;

said drive shaft has first and second ends and being rotatably supported and engaged within said central housing;

 a first needle bearing disposed annularly about said first end of said drive shaft and supported by said rear housing;

5 a second needle bearing disposed annularly about said second end of said drive shaft and being supported by said central housing for rotateably supporting said drive shaft within said compressor;

 said first end of said drive shaft including a plurality of spline teeth integral with and extending radially outwardly from and longitudinally along said first end of said drive shaft for engaging complementary tracks of a clutch driver;

 said swash plate assembly including a drive hub rotatable with said drive shaft;

15 said drive hub including a generally tubular portion surrounding said drive shaft and radial flange extending from said tubular portion to a periphery;

 said radial flange presenting a boss at said periphery;

 a first pin extending through said boss spaced from and transversely to said drive shaft;

20 a sleeve disposed about said drive shaft and axially spaced from said drive hub;

 a journal member supported by and connected to said sleeve for tilting movement relative to said longitudinal axis and having an extension extending from said journal member;

 a second pin extending through said extension in parallel and spaced

relationship to said first pin;

a hinge link interconnecting said pins for rotating said journal member with said drive hub while allowing said journal member to tilt relative to said longitudinal axis;

5 a swash plate of a generally circular configuration extending from said journal member to a peripheral edge for rotating with said journal member;

at least one piston including a pair of shoes and being coupled to said swash plate through said shoes;

said resilient member being further defined by a first coil spring
10 disposed annularly about said drive shaft and between said drive hub and said sleeve; and

a second resilient member disposed annularly about said drive shaft between said sleeve and said retainer ring disposed in said first annular groove.

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